



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,298	09/21/2000	Jacobus C. Haartsen	040071-247	8507
7590	10/19/2005			EXAMINER
Potomac Patent Group PLLC P O Box 270 Fredericksburg, VA 22404			NGUYEN, TOAN D	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/666,298	HAARTSEN, JACOBUS C.
	Examiner Toan D. Nguyen	Art Unit 2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 27 July 2005.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-24 and 26-35 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-18 is/are allowed.  
 6) Claim(s) 19-21,24,27-29 and 32 is/are rejected.  
 7) Claim(s) 22,23,26,30,31 and 33-35 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 29 June 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show HS slave X 440, and HS slave Y 450 in figure 4 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkioja et al. (US 5,774,808) in view of Bird (US 6,519,245).

For claim 19, Sarkioja et al. disclose method for channel allocation in a cellular communication system, the method comprising the steps of:

establishing a frequency hopping traffic channel between a first and a second communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 2.0-21 and col. 4 lines 34-37), having a set of the plurality of time slots (figure 3, col. 3 lines 20-2-4) and a first set of hop carrier frequencies within the frequency spectrum (figure, col. 3 lines 38-42); and

establishing a static traffic channel between a third and a fourth communication unit (figure 3, reference TRX1, col. 3 lines 17-20 and col. 4 lines 29-34), the static traffic channel (figure 3, reference TRX1) having a carrier frequency within the frequency spectrum (col. 3 lines 42-44). However, Sarkioja et al. do not disclose a fast frequency hopping traffic channel. In an analogous art, Bird discloses the fast frequency hopping traffic channel (col. 3 line 30).

One skilled in the art would have recognized a fast frequency hopping traffic channel to use the teachings of Bird in the system of Sarkinja et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use

the fast frequency hopping traffic channel as taught by Bird in Sarkioja et al.'s system with the motivation being to provide other types of channels, such as fast frequency hopping where each time slot has a frequency hop pattern, slow or fast phase code modulation, time division, or the like could be used (col. 3 lines 29-32).

4. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkioja et al. (US 5,774,808) in view of Bird (US 6,519,245) further in view of Ishifuji et al. (US 6,061,389).

For claims 20 and 21, Sarkioja et al. in view of Bird do not disclose the step of communicating one or more first data packets on one or more of the set of the plurality of time slots from the first communication unit to the second communication unit over the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s. In an analogous art, Ishifuji et al. disclose the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28). Ishifuji et al. disclose further the step of communicating one or more first data packets from the third communication unit to the fourth communication unit over the static traffic channel at a rate exceeding 5 Ws (col. 2 lines 23-28 as set forth in claim 21).

One skilled in the art would have recognized the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s to use the teachings of Ishifuji et al. in the system of Bird. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s as taught by Ishifuji et al. in Bird's system with the motivation being arranged so that one hop occurs within some symbols (col. 2 lines 23-26).

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkioja et al. (US 5,774,808) in view of Bird (US 6,519,245) further in view of Trompower et al. (US 6,088,591).

For claim 24, Sarkioja et al. in view of Bird disclose further comprising the steps of:

establishing the frequency hopping traffic channel between the first, the second, and the third communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37). However, Sarkioja et al. in view of Bird do not disclose wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel. In an analogous art, Trompower et al. disclose wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel (col. 4 lines 38-39).

One skilled in the art would have recognized a beacon packet is transmitted to use the teachings of Trompower et al. in the system of Sarkioja et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the beacon packet is transmitted as taught by Trompower et al. in Sarkioja et al.'s system with the: motivation being to allow for signal quality evaluation (col. 4 lines 40-41).

6. Claim 27 is rejected under 35 U.S.C. 103(x) as being unpatentable over Poyhonen (US 5,570,352) in view of Sarkioja et al. (US 5,774,808).

For claim 27, Poyhonen discloses digital cellular network/system with mobile stations communicating with base stations using' frequency-hopping and having enhanced effect of interference diversity, the apparatus comprising: an air interface (figure 1, col. 3 lines 44-47); and a first, second, third, and fourth communication unit coupled together over an air interface (figure 1, references 11 and 12) (col. 3 lines 44-53). However, Poyhonen does not disclose the first communication unit is configured to: establish a frequency hopping traffic channel between the first and the second communication unit, the frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum; and establish a static traffic channel between the third and the fourth communication unit, the static traffic channel having a carrier frequency within the frequency spectrum. In an analogous art; Sarkioja et al. disclose the fast communication unit is configured to: establishing a frequency hopping traffic channel between a first and a second communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37), having a set of the plurality of time slots (figure 3, col. 3 lines 20-24) and a first set of hop carrier frequencies within the frequency spectrum (figure, col. 3 lines 38-42); and

establishing a static traffic channel between a third and a fourth communication unit (figure 3, reference TRX1, col. 3 lines 17-20 and col. 4 lines 29-34), the static traffic channel (figure 3, reference TRX1) having a carrier frequency within the frequency spectrum (col. 3 lines 42-44).

One skilled in the art would have recognized establishing a frequency hopping traffic channel between a first and a second communication unit to use the teachings of Sarkioja et al. in the system of Poyhonen. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the establishing a frequency hopping traffic channel between a first and a second communication unit as taught by Sarkioja et al. in Poyhonen's system with the motivation being to provide a method for allocating radio channel in a cellular communication system (Abstract lines 1-2).

7. Claims 28 and 29 are rejected under 35 U.S.C. 103(x) as being unpatentable over Poyhonen (US 5,570,352) in view of Sarkioja et al. (US 5,774,808) further in view of Ishifuji et al. (US 6,061,389).

For claims 28 and 29, Poyhonen in view of Sarkioja et al. does not disclose wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the first communication unit to the second communication unit over the frequency hopping traffic channel at a rate of between 1-3 Mb/s. In an analogous art, Ishifuji et al. disclose wherein the first communication unit is further configured to communicate one or more first data packets on one or more of the first set of the plurality of time slots from the first communication unit to the second communication unit over the frequency hopping traffic channel at a rate of between 1-3 Mb/s (col. 2 lines 23-28). Ishifuji et al. disclose wherein the third communication unit is further configured to communicate one or more first data packets from the third communication unit to the fourth communication unit over the

static traffic channel at a rate exceeding 5 Mb/s (col. 2 lines 23-28 as set forth in claim 29).

One skilled in the art would have recognized the frequency hopping traffic channel at a rate of between 1-3 Mb/s to use the teachings of Ishifiji et al. in the system of Bird. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the frequency hopping traffic channel at a rate of between 1-3 Mb/s as taught by Ishifiji et al. in Bird's system with the motivation being arranged so that one hop occurs within some symbols (col. 2 lines 23-26).

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poyhonen (US 5,570,352) in view of Sarkioja et al. (US 5,774,808) further in view of Trompower et al. (US 6,088,591).

For claim 32, Poyhonen does not disclose establishing the frequency hopping traffic channel between the first, the second, and the third communication unit; and wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel. In an analogous art, Sarkioja et al. disclose the steps of establishing the frequency hopping traffic channel between the first, the second, and the third communication unit (figure 3, reference TRX2-TRX4, col. 3 lines 20-21 and col. 4 lines 34-37).

However, Poyhonen in view of Sarkioja et al. does not disclose wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel. In an analogous art, Trompower et al. disclose

wherein a beacon packet is transmitted to the third communication unit, the beacon packet associated with the frequency hopping traffic channel (col. 4 lines 38-39).

One skilled in the art would have recognized a beacon packet is transmitted to use the teachings of Trompower et al. in the system of Poyhonen. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the beacon packet is transmitted as taught by Trompower et al. in Poyhonen's system with the motivation being to allow for signal quality evaluation (col. 4 lines 40-41).

***Allowable Subject Matter***

9. Claims 22-23, 26, 30-31 and 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 1-18 are allowed.

Regarding claims 1 and 10, the prior art fails to teach a combination of the steps of:

establishing fast frequency hopping traffic channel between a first and a second communication unit, the fast frequency hopping traffic channel having a set, of the plurality of time slots and a first set of hop carrier frequencies within the frequency spectrum; and

establishing a slow frequency hopping traffic channel between a third and a fourth communication unit, the slow frequency hopping traffic channel having a second set of hop carrier frequencies within the frequency spectrum, in the specific combination as recited in the claims.

***Response to Arguments***

11. Applicant's arguments filed on 7/27/05 have been fully considered but they are not persuasive.

The applicant provides a brief summary of novel methods and apparatuses for communicating using a plurality of time slots within a frequency spectrum according to exemplary embodiments of the present invention in order to highlight some of the advantageous characteristics thereof. However, the examiner could not find a third communication unit (e.g. HS slave X440) and a fourth communication unit (e.g., HS slave Y450) may communicate using a static traffic channel as illustrated in Figure 4.

The applicant argues with respect to claims 19-21, 24, 27-29 and 32, that Sarkioja patent can not reasonably be said to describe both establishing a frequency hopping traffic channel between a first and second communication unit and establishing a static traffic channel between a third and fourth communication unit as set forth, among other features, in Applicant's claim 19 combination. This is because (comparing the two figures above), Sarkioja only teaches establishing traffic channels between a base station and one of a number of different mobile stations. Sarkioja does not disclose establishing different channels between different pairs of communication units. The examiner disagrees. Applicant's attention is directed to Sarkioja patent at col. 2 lines 42-46 (figure 1), where Sarkioja clearly teaches "The cellular communication system comprises a base station BTS which communicates with the subscriber terminal equipments MS within its area, so that each terminal equipment has a traffic channel of its own." (establishing different channels between different pairs of communication units

means). The limitation features in claims 19 and 27 recited a first, a second, a third and a fourth communication unit. The claims do not claimed a first, a second, a third, and a fourth communication units are different communication units. Therefore, Sarkioja does disclose establishing different channels between different pairs of communication units.

Furthermore, the limitation features recited in claims 19 and 27 do not claimed both establishing a frequency hopping traffic channel between a first and second communication unit and establishing a static traffic channel between a third and fourth communication unit are in sequence or in order or simultaneously. Therefore, Sarkioja patent teaches both establishing a frequency hopping traffic channel between a first and second communication unit and establishing a static traffic channel between a third and fourth communication unit as set forth, among other features, in claims 19 and 27.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D. Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN  
TN

Man U. Phan

MAN U. PHAN  
PRIMARY EXAMINER